

CLAIMS

1. A method for arranging error control of packet-switched data, wherein at least a first part and a second part can be separated from the packets, the method comprising:
  - determining conditions that apply for the processing of the first part and the second part in an error situation;
  - detecting errors in received data;
  - checking, in response to an error detected in the received first part and/or second part whether said conditions allow the first part and/or second part to be transmitted to upper protocol layers; and
  - transmitting, in response to said conditions allowing it, the first part and/or second part to the upper protocol layers.
2. A method according to claim 1, wherein the first part comprises header fields and the second part payload.
3. A method according to claim 2, wherein the header fields are used for decompression, even if said conditions prevented their transmission to upper layers.
4. A method according to claim 1, wherein the first part and the second part are separated from the IP data packets to be transmitted; and  
the first part and the second part are transmitted on separate logical connections.
5. A method according to claim 1, further comprising:  
indicating to the upper layers an error detected in the first part and/or second part of the packets to be transmitted.
6. A method according to claim 1, wherein the error detection is performed on data units received on a physical layer and comprising the first part and the second part;  
an error indication is added to erroneous data units; and  
it is checked whether said data units meet said conditions.

7. A method according to claim 1, wherein a radio resource control protocol RRC is used for the management of radio resources, wherein  
said instructions are determined by means of RRC signalling  
between the packet radio network and the mobile station; and  
a data link layer entity, such as a PDCP entity or an RLC entity, is  
configured to carry out said check.

8. A method according to claim 4, wherein the logical connections  
are handled by the RLC entity of the radio link control layer; and  
the RLC entities are provided with a command instructing whether  
an erroneous data unit is to be transmitted to an upper layer or not.

9. A method according to claim 1, wherein the PDCP entity of the  
packet data convergence protocol layer is responsible for separating the first  
part and the second part and for combining them; and  
said conditions are checked in the PDCP entity, in response to an  
indication that the first part and/or the second part in one and the same packet  
are erroneous.

10. A method according to claim 1, wherein different conditions  
apply for the mobile station than for the network element providing the logical  
connections.

11. A packet radio system for transferring packet-switched data in  
which at least a first part and a second part can be separated from the  
packets, wherein

the packet radio system is configured to determine conditions for  
the handling of errors detected at least in the first parts and the second parts  
of packets;

the packet radio system is configured to detect errors in received  
packet-switched data,

the packet radio system is configured to check, in response to a  
detected error in the received first part and/or second part whether said  
conditions allow the first part and/or second part to be transferred to upper  
layers; and

the packet radio system is configured to transmit, in response to said conditions allowing the transmission, the first part and/or second part to upper protocol layers.

12. A packet radio system according to claim 11, wherein the first part comprises header fields and the second part payload.

13. A packet radio system according to claim 11, wherein the packet radio system is configured to separate the first part and the second part from the IP packets to be transmitted; and

the packet radio system is configured to transmit the first part and the second part on separate logical connections.

14. A packet radio system according to claim 11, wherein a radio resources control protocol RRC is used for the management of radio resources,

the packet radio network of the packet radio system is configured to determine said instructions by means of RRC signalling to the mobile station; and

the mobile station and the packet radio network are configured to command the data link layer entity, such as the PDCP entity or the RLC entity, to carry out said check.

15. A mobile station comprising:

means for transferring packet-switched data in which at least a first part and a second part can be separated from the packets;

means for determining conditions that apply for the processing of the first part and the second part in an error situation;

means for detecting errors in received data;

means for checking, in response to an error detected in the received first part and/or second part whether said conditions allow the first part and/or second part to be transmitted to upper protocol layers; and

means for transmitting, in response to said conditions allowing it, the first part and/or second part to the upper protocol layers.

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16. A network element comprising:

- means for transferring packet-switched data in which at least a first part and a second part can be separated from the packets;
- means for determining conditions that apply for the processing of the first part and the second part in an error situation;
- means for detecting errors in received data;
- means for checking, in response to an error detected in the received first part and/or second part whether said conditions allow the first part and/or second part to be transmitted to upper protocol layers; and
- means for transmitting, in response to said conditions allowing it, the first part and/or second part to the upper protocol layers.

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